



Cross-Connection Control Requirements for Dedicated Irrigation Services

The City of Sunnyvale has a Cross-Connection Control Program to protect the City's drinking water distribution system from contamination caused by backflow (reversal of flow from a customer's premises into the potable water distribution system). The program is administered by the Water Division. The purpose of this brochure is to explain Sunnyvale's requirements for backflow protection for irrigation services.

What is a cross-connection?

A cross-connection is an actual or potential connection between a public or consumer's drinking water system and a non-potable (non-drinkable) source of water or other fluid. All cross-connections must be protected with the appropriate backflow prevention assembly.

What is the required protection for NEW irrigation services?

The Water Division requires that all new water service connections for irrigation systems in Sunnyvale be protected with a **reduced pressure principle (RP)** backflow prevention assembly at the service connection (containment). All assemblies installed in Sunnyvale must be on the "Approved Backflow Prevention Assemblies for Service Containment" list developed by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research.

What is the required protection for EXISTING irrigation services?

1. **An RP is required** under the following conditions:

- The sprinkler/irrigation system has pumps, connections for pumping equipment, auxiliary air tanks, or is otherwise capable of creating back-pressure. If the highest outlet of an irrigation system, e.g., a sprinkler head or hose bib, is less than 12-inches below the elevation of the outlet of the backflow preventer, the potential for back-pressure exists (*California Plumbing Code 603.4.6.2*).
- The sprinkler/irrigation system includes a chemical injector or any provisions for chemical injection (*California Plumbing Code 603.4.6.2*).

If an irrigation system meets the criteria above and the service line is not protected with an RP, the property owner must install an RP.

2. If an existing irrigation system has **no pumps or connections for pumping equipment and no chemical injection or provisions for chemical injection**, then the California Plumbing Code requires an atmospheric vacuum breaker, a pressure vacuum breaker, a spill resistant pressure vacuum breaker, or an RP (*California Plumbing Code 603.4.6.1*).



3. If an existing irrigation system has a **backflow assembly/device installed downstream from a potable water supply pump or a potable water supply pump connection**, then the California Plumbing Code requires a pressure vacuum breaker, a spill-resistant pressure vacuum breaker, or an RP (*California Plumbing Code 603.4.6.3*). If an atmospheric vacuum breaker, pressure vacuum breaker, or spill-resistant pressure vacuum breaker (on a system meeting the requirements in cases 2 and 3 above) fails and cannot be repaired, then Sunnyvale Water Division requires that an RP be installed at the service connection.

Note: Before modifying an existing irrigation system, you must obtain a permit from the Department of Building Inspection. All backflow prevention assemblies installed in Sunnyvale must be on the “Approved Backflow Prevention Assemblies” list developed by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research.

Where must backflow prevention assemblies be installed?

Backflow prevention assemblies must be installed as close as possible to the meter, point of connection (POC) with the potable water system.

Assemblies must be tested immediately after installation by a tester approved to work in Sunnyvale, and test results must be reported to the Cross-Connection Control Program within five days. After initial testing, assemblies must be tested annually.

Who is permitted to test backflow prevention assemblies?

Testers who work in Sunnyvale must have a valid Annual Permit to Operate. The list of Certified Backflow Prevention Assembly Testers and Installers is available at (408) 730-7387.

Who is responsible for the cost of installing backflow prevention assemblies?

All costs associated with backflow protection on irrigation services are the responsibility of the property owner. These costs include purchase, installation, permitting, testing (both upon installation and annually thereafter), and maintenance.

Where can I get additional information?

Additional information is available at backflow.insunnyvale.com or you can call the Cross-Connection Control Program at (669) 600-7322 between 8 am and 5 pm, Monday through Friday. You may also contact the Utility Billing Division at (408) 730-7387.